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PACIFIC  **TELESIS.**
Group - Washington

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JUN 14 1993

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

June 14, 1993

Donna R. Searcy
Secretary
Federal Communications Commission
Mail Stop 1170
1919 M Street, N.W., Room 222
Washington, D.C. 20554

92-9/

Dear Ms Searcy:

Re: *ET Docket No. 92-9, RM-7981, RM-8004 - Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies*

JUN 14 1993

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)	
)	
Redevelopment of Spectrum to)	ET Docket No. 92-9
Encourage Innovation in the)	
Use of New Telecommunications)	RM-7981
Technologies)	RM-8004
)	

To: The Commission

COMMENTS OF PACIFIC TELESIS GROUP

Pursuant to the Commission's Public Notice regarding the supplemental Alcatel filing, Pacific Telesis Group submits the following comments.¹

Pacific Telesis Group is in basic agreement with Alcatel Network System's ("ANS") revised channelization plan which was submitted to the FCC on May 20, 1993. ANS's Compromise Channel Plan has corrected many of the problems with their original channelization plan and is also a significant improvement over an alternate channelization plan proposed by the Joint Comments of Harris Corporation-Farion Division, Digital Microwave Corporation and Telesciences, Inc. ("Joint Commenters").

A major problem with the Joint Commenters' plan is that in the lower 6 GHz and 11 GHz bands a single narrowband 3.75 MHz channel can block two 5 MHz and/or 10 MHz channels.

¹ Comment Requested on Supplemental Alcatel Filing, ET Docket No. 92-9, Public Notice, May 28, 1993.

This occurs because several 3.75 MHz frequency slots fall between adjacent 5 MHz and/or 10 MHz slots, blocking both. (See Figure 6 in the supplemental ANS filing.) Consequently, a single 3.75 MHz channel can block up to 20 MHz of spectrum. ANS's Compromise Channel Plan prevents this problem by always keeping the 3.75 MHz channel slots entirely within the 5 MHz slots. (See Figure 7 in the supplemental ANS filing.) There is no overlap. This is not only spectrally more efficient but gives both narrowband and broadband users more flexibility in selecting frequencies.

Another advantage of ANS's Compromise Channel Plan over the Joint Commenters' plan is in the more efficient channelization of the 11 GHz band. ANS utilizes band center spectrum that was unused in the Joint Commenters' plan and relocate the narrowband (5 MHz or less) channels closer to the band edges so that they will not overlap more than two wideband 30 or 40 MHz channels. (See Figures 5 and 15 of the supplemental ANS filing.) These changes restore a broadband channel pair that was lost in the Joint Commenters' plan. Compared to the Joint Commenters' plan, ANS's new plan is more spectrally efficient. It adds another wideband channel while retaining adequate spectrum for narrowband users.

ANS's Compromise Channel Plan also proposes instituting specified minimum payload capacity (in Megabits/second) for each nominal channel bandwidth and, for wideband channels (10 MHz or higher), requires an initial traffic loading of 50% or more of payload capacity. For

wideband channels this means a minimum capacity of a 1 DS-3 for a 10 MHz channel, a 2 DS-3 for a 20 or 30 MHz channel and a 3 DS-3 for a 40 MHz channel. This appears to be an extension of existing FCC rules for wideband radios which mandate spectral efficiency (in bits/Hertz) and minimum loading requirements. The obvious intent of these rules is to ensure efficient use of the spectrum by requiring a radio with a high bit/Hertz ratio and restricting use of wideband frequency slots to users with a demonstrated need for a high capacity radio.

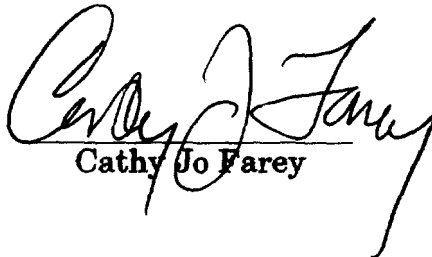
While these rules may seem prudent, establishing efficiency rules that are too stringent can cause problems for many users. For instance, ANS's proposed rules require a 1 DS-3 radio to use a 10 MHz slot. There are some 1 DS-3 radios that can meet this requirement but this rule would prevent use of other, more robust, 1 DS-3 radios that have a higher system gain but require 15 MHz of spectrum. The significant system gain advantage of the robust radios may mean the difference between an economically viable route and one that won't perform as needed. For example, a 1 DS-3 radio restricted to 10 MHz may require greater antenna strength, raising the cost of transmission. There is an increasing need for "skinny route" systems (systems that only need to use one radio) of 1 DS-3 capacity that may require all the system gain available.

Even in frequency congested areas there appears no need to restrict the 1 DS-3 channels to only 10 MHz. The channel capacity rules should be modified to allow the use of robust 1 DS-3 radios to operate in 15 MHz channels. This is

especially critical in the 11 GHz band because transmission in this band is adversely affected by rain. In the 11 GHz band,

CERTIFICATE OF SERVICE

I, Cathy Jo Farey, hereby certify that a copy of the foregoing Comments of Pacific Telesis Group was mailed first-class United States mail, postage prepaid, this 14th day of June, 1993 to the parties listed on the attached service list.


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